Visualizing Survey Results in Tableau

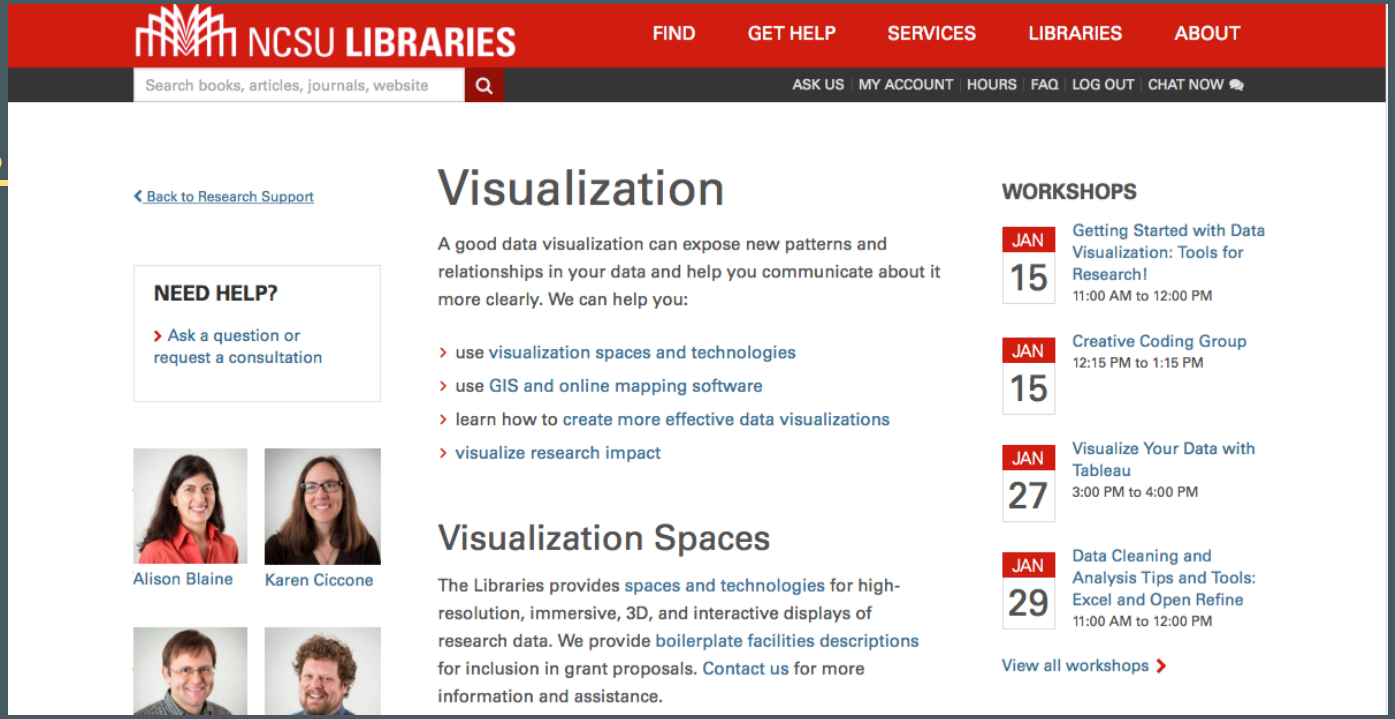
•••

Alison Blaine ablaine@ncsu.edu
Hannah Rainey hlrainey@ncsu.edu

NCSU LIBRARIES

Data Visualization Services

lib.ncsu



Learning Objectives

Structure and **process** survey data for visualization

Create **two visualizations** from sample survey data using Tableau

We will **not** cover:

Survey design or methods

Resources

Data Revelations - Tableau Tips, by Steve Wexler

Visualizing Survey Data - Tableau White Paper

Download the dataset

go.ncsu.edu/surveyviz

SurveySampleData_July2014C.xlsx

Re-Shaping Survey Data for Visualization

a little preparation goes a long way

Demographic information

	A	B	C	D
1	RespID	Gender	Location	Generation
2	2	Male	South America	Generation X
3	4	Female	South America	Baby Boomers
4	5	Female	South America	Generation X
5	6	Male	Antarctica	Baby Boomers
6	9	Female	Europe	Baby Boomers
7	12	Female	Europe	Baby Boomers
8	15	Male	North America	Baby Boomers
9	16	Male	Antarctica	Baby Boomers
10	17	Female	Europe	Baby Boomers
11	18	Male	North America	Traditionalists
12	22	Male	South America	Generation X
13	25	Female	South America	Generation X
14	26	Female	South America	Millenials

Text responses

	A	B	C	D	E	F	G	H
1	RespID	Q0	Q100	Q134a	Q134b	Q134c	Q134d	Q134e
2	2	No	$ 98,038	Small degree	Small degree	Not at all	Small degree	Moderate degree
3	4	No	$ 138,936	Very high degree	Very high degree	Not at all	Very high degree	Very high degree
4	5	Yes	$ 84,471	Very high degree	High degree	Moderate degree	Very high degree	High degree
5	6	Don't know	$ 138,534	Very high degree	High degree	Small degree	Moderate degree	High degree
6	9	Yes	$ 68,944	Very high degree	Very high degree	Moderate degree	Very high degree	Very high degree
7	12	No	$ 100,663	Moderate degree	Moderate degree	Moderate degree	High degree	High degree
8	15		$ 122,481					
9	16	Yes	$ 106,036	Moderate degree	Very high degree	High degree	Very high degree	High degree
10	17	Don't know	$ 81,681	High degree	High degree	High degree	High degree	High degree
11	18	No	$ 104,200	Moderate degree	High degree	High degree	Very high degree	Moderate degree
12	22	No	$ 172,723	High degree	High degree	Small degree	High degree	High degree
13	25	Yes	$ 153,410	Small degree	High degree	Small degree	High degree	Moderate degree
14	26	Yes	$ 93,194	High degree	High degree	Moderate degree	High degree	High degree
15	27	Yes	$ 101,662	Very high degree	High degree	Small degree	Moderate degree	High degree
16	29		$ 114,216	Very high degree	Very high degree	Small degree	Very high degree	High degree
17	30	No	$ 97,354	Moderate degree	High degree	High degree	High degree	Moderate degree
18	31	Yes	$ 120,061	Moderate degree	High degree	Moderate degree	Moderate degree	Moderate degree

Number Responses

	A	B	C	D	E	F	G	H
1	RespID	Q0	Q100	Q134a	Q134b	Q134c	Q134d	Q134e
2	2	0	$ 98,038	1	1	0	1	2
3	4	0	$ 138,936	4	4	0	4	4
4	5	1	$ 84,471	4	3	2	4	3
5	6	2	$ 138,534	4	3	1	2	3
6	9	1	$ 68,944	4	4	2	4	4
7	12	0	$ 100,663	2	2	2	3	3
8	15		$ 122,481					
9	16	1	$ 106,036	2	4	3	4	3
10	17	2	$ 81,681	3	3	3	3	3
11	18	0	$ 104,200	2	3	3	4	2
12	22	0	$ 172,723	3	3	1	3	3
13	25	1	$ 153,410	1	3	1	3	2
14	26	1	$ 93,194	3	3	2	3	3
15	27	1	$ 101,662	4	3	1	2	3
16	29		$ 114,216	4	4	1	4	3
17	30	0	$ 97,354	2	3	3	3	2

Metadata (Helper)

	A	B	C
1	QuestionID	Wording	Question Grouping
2	Q0	Vote in the upcoming election?	Vote
3	Q134a	Good Job Skills	Indicate degree to which you agree
4	Q134b	Good Sense of Humor	Indicate degree to which you agree
5	Q134c	High Intelligence	Indicate degree to which you agree
6	Q134d	Can Play Jazz	Indicate degree to which you agree
7	Q134e	Likes the Beatles	Indicate degree to which you agree
8	Q100	Salary	Salary
9			

Data manipulation tips

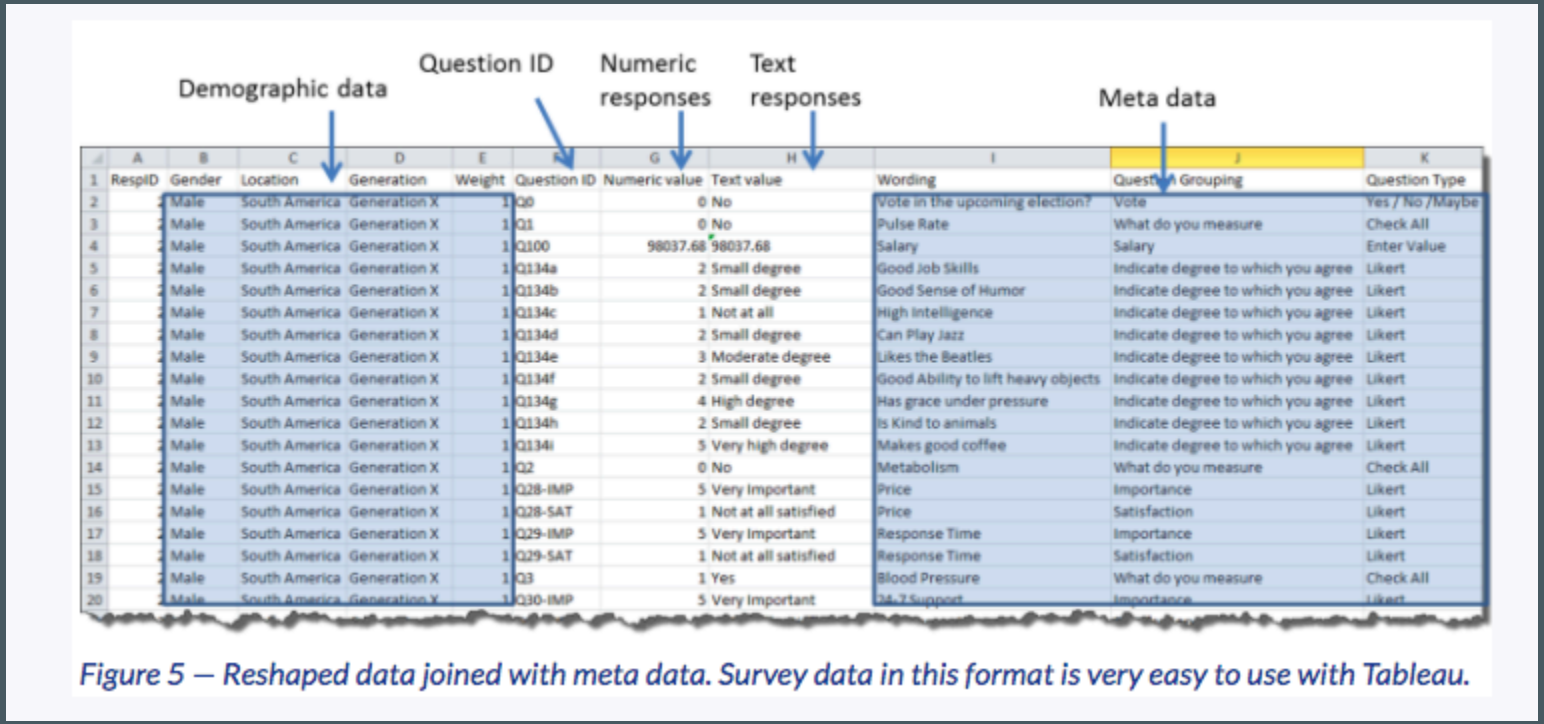
For survey data, it is best practice to:

- Give all questions unique IDs
- Pivot your data so that all questions are in one column and all responses are in another.
  - The “Question ID” column has the question IDs
  - The “Response” column has participant responses.

However, if you have responses of different data types, consider having three columns:

“Question ID” “Text Response” and “Numeric Response” to be able to

The ideal data table



	A	B	C	D	E	F	G	H	I	J	K
1	RespID	Gender	Location	Generation	Weight	Question ID	Numeric value	Text value	Wording	Question Grouping	Question Type
2		Male	South America	Generation X	1	Q0	0	No	Vote in the upcoming election?	Vote	Yes / No /Maybe
3		Male	South America	Generation X	1	Q1	0	No	Pulse Rate	What do you measure	Check All
4		Male	South America	Generation X	1	Q100	98037.68	98037.68	Salary	Salary	Enter Value
5		Male	South America	Generation X	1	Q134a	2	Small degree	Good Job Skills	Indicate degree to which you agree	Likert
6		Male	South America	Generation X	1	Q134b	2	Small degree	Good Sense of Humor	Indicate degree to which you agree	Likert
7		Male	South America	Generation X	1	Q134c	1	Not at all	High Intelligence	Indicate degree to which you agree	Likert
8		Male	South America	Generation X	1	Q134d	2	Small degree	Can Play Jazz	Indicate degree to which you agree	Likert
9		Male	South America	Generation X	1	Q134e	3	Moderate degree	Likes the Beatles	Indicate degree to which you agree	Likert
10		Male	South America	Generation X	1	Q134f	2	Small degree	Good Ability to lift heavy objects	Indicate degree to which you agree	Likert
11		Male	South America	Generation X	1	Q134g	4	High degree	Has grace under pressure	Indicate degree to which you agree	Likert
12		Male	South America	Generation X	1	Q134h	2	Small degree	Is Kind to animals	Indicate degree to which you agree	Likert
13		Male	South America	Generation X	1	Q134i	5	Very high degree	Makes good coffee	Indicate degree to which you agree	Likert
14		Male	South America	Generation X	1	Q2	0	No	Metabolism	What do you measure	Check All
15		Male	South America	Generation X	1	Q28-IMP	5	Very Important	Price	Importance	Likert
16		Male	South America	Generation X	1	Q28-SAT	1	Not at all satisfied	Price	Satisfaction	Likert
17		Male	South America	Generation X	1	Q29-IMP	5	Very Important	Response Time	Importance	Likert
18		Male	South America	Generation X	1	Q29-SAT	1	Not at all satisfied	Response Time	Satisfaction	Likert
19		Male	South America	Generation X	1	Q3	1	Yes	Blood Pressure	What do you measure	Check All
20		Male	South America	Generation X	1	Q30-IMP	5	Very Important	Q4-7 Support	Importance	Likert

Figure 5 — Reshaped data joined with meta data. Survey data in this format is very easy to use with Tableau.

Source: Steve Wexler, “Getting Survey Data Just So”

Data manipulation tips in Tableau

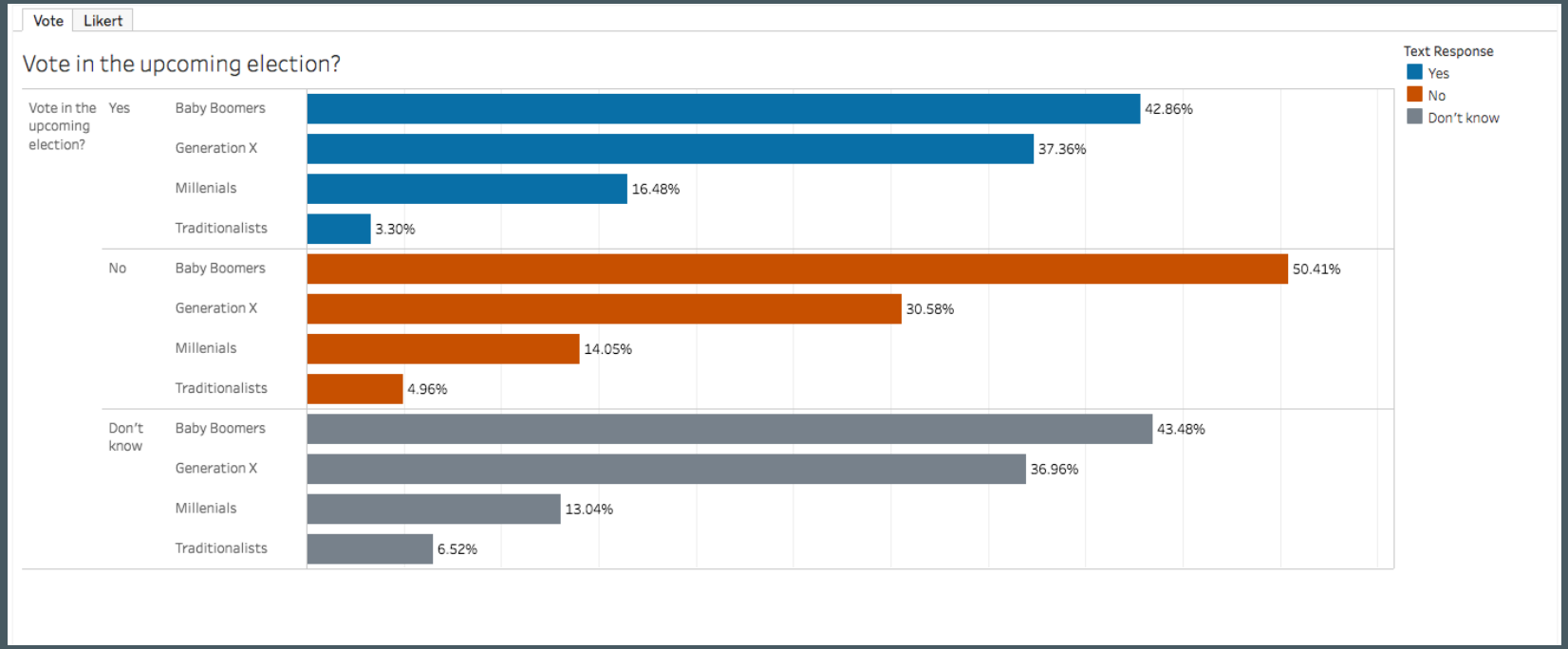
In Tableau, you can only make one pivot of your data.

If you want to do more custom pivoting, you can make data extracts (static subsets of your data).

Pivot these extracts of data how you like them and then join them together.

Making extracts is required to separate responses into 2 columns (Text Responses and Numeric Responses) - which would require two pivots

Activity : Yes, No, Maybe



Activity: Likert scale